25

HEALTH AND MEDICAL RESEARCH

HEALTH SERVICES

Health Department

Under the *Health Act* 1958, responsibility for the health of the community is vested in the Minister of Health, and in exercising control of various aspects of health work he is supported by such bodies as the Commission of Public Health, the Mental Health Authority, the Hospitals and Charities Commission, and various bodies exercising oversight of special services and of groups of persons engaged in particular professions or industries.

The principal advisers of the Minister on matters which come within their respective fields of responsibility are the Permanent Head of the Department, the Chief Health Officer (who is also the Chairman of the Commission of Public Health), the Chairman of the Mental Health Authority and the Chairman of the Hospitals and Charities Commission. Under the Health Act the Minister may also appoint, from time to time, consultative councils of experts to advise him on special problems concerned with public health. This has been done in matters relating to poliomyelitis, maternal and infant mortality, and road accident mortality. The Minister is assisted by a central administrative branch containing a secretariat with its various service sections. The Department is divided into the General Health, Mental Hygiene, Maternal and Child Welfare, Tuberculosis, and Alcoholic and Drug Dependent Persons Services Branches. The Mental Health Authority is responsible for the Mental Hygiene and the Alcoholic and Drug Dependent Persons Services Branches, while the remaining three branches are each under the control of a medical specialist and an administrator, all of whom are responsible to the Chief Health Officer.

The Commission of Public Health, with the Chief Health Officer as its chairman and six other members as constituted under the *Health Act* 1958, is responsible for environmental health including such matters as the prevention of pollution of sources of water supply and regulation of the use and transport of radioactive substances. The policies of the Commission are carried out either by officers of the General Health Branch acting under the day-to-day direction of the Chief Health Officer or by the exercise of oversight by the General Health Branch over the work of municipal councils. The General Health Branch supervises community services which help to care for older persons in their own homes, thereby considerably reducing

the demands upon hospitals for the aged. A body known as the Foods Standards Committee recommends regulations for the control of standards to ensure the purity of food, these regulations being administered primarily by municipal councils.

Under the direction of the Mental Health Authority a comprehensive service for the mentally ill has been developed in recent years, emphasis being given to outpatient services throughout the State. Intensive treatment for early cases requiring hospital treatment is provided in special psychiatric hospitals, while mental hospitals provide care, treatment, and rehabilitation for patients requiring long-term care. Residential special schools for intellectually handicapped children are operated by the Authority which also subsidises the operation of large numbers of day training centres throughout the State. Research into the causes of mental and emotional illness and investigations of new and improved methods of treatment are being carried out, while community education programmes increase the understanding of the problems of mental ill-health. A personal emergency service provides a continuous service for persons with urgent emotional problems.

The Victorian Alcoholic and Drug Dependent Persons Services are a branch of the Department of Health and administered by the Mental Health Authority. These services are being developed as a new and uniquely important focus for all the State's responses to individual and community problems associated with the use of alcohol and other drugs. Four distinct specialised centres, co-ordinated from a central office, provide treatment, rehabilitation, research, training, and prevention programmes. By extending and supporting previously available facilities they back-up and help improve a broad range of services to the people of Victoria. In addition, the new services can enable the effective co-ordination of all community responses to the complex problems of alcohol and drug use.

The central co-ordinating office with the inspector of the Service, the administrative secretary, research officers, data bank, etc., is based in Melbourne. Pleasant View Assessment Centre at Preston not only provides 80 beds for inpatient use, but also specialises in the thorough evaluation of people's problems and in outpatient, day, and evening programme work. Gresswell Rehabilitation Centre at Mont Park provides training, treatment, and rehabilitation for 84 inpatients, but extensions to cater for a total of 120 men and women are planned. Community contact, outpatient, and other facilities are provided. Smith Street Clinic is a specialised detoxification centre with sixteen intensive care beds, outpatient facilities, and close links with general hospitals and other emergency care units. Heatherton Hospital provides 70 beds for physically sick patients (ill in association with alcohol and other drug use problems).

Although each unit has its special emphasis on one type of work, all function together as a cohesive whole to provide specialist, back-up help for people with problems related to the use of alcohol and other drugs.

The Hospitals and Charities Commission, operating under the Hospitals and Charities Act, exercises general supervision over all public institutions subsidised by the Government and thereby contributes to the maintenance of a high standard of hospital service. The Commission recommends allocations of money from the Hospitals and Charities Fund to these bodies,

and registers and supervises the operation of private hospitals, ambulance services, and other bodies established for charitable purposes. In a community in which the proportion of older persons is increasing, the Commission helps to deal with a problem which faces health administrators by conducting a placement service in private hospitals for older persons awaiting admission to hospitals for the aged.

The Minister of Health is responsible to Parliament for the activities of a number of other important bodies such as the Anti-Cancer Council, the Cancer Institute Board, and the Fairfield Hospital Board, together with a number of registering authorities associated with practice by doctors, dentists, dental technicians, pharmaceutical chemists, dietitians, opticians, nurses, masseurs, psychologists, chiropodists, etc.

Further references, 1964–1974; Industrial hygiene, 1964; Poliomyelitis and allied diseases, 1964; Food standards and pure food control, 1964; Communicable diseases, 1964; Control of poisons and deleterious substances, 1965; Inter-departmental Committee on Pesticides, 1965; School Dental Service, 1966; Epidemics, 1967; School Medical Service, 1968; Poisons Information Centre, 1969; Public health engineering, 1969; Drug and poison control, 1970; Environment protection, 1972

Maternal, infant, and pre-school services

The Maternal, Infant, and Pre-School Welfare Division of the Maternal and Child Welfare Branch of the Department of Health is responsible for administering the pre-natal, infant welfare, and pre-school services in Victoria.

In November 1973, the Consultative Council on Pre-School Child Development submitted its report on the health, education, and welfare services for pre-school children in Victoria. It also contained recommendations with regard to staff training and methods of financing services.

Infant welfare services

Development has been on a decentralised pattern with infant welfare centres being established in municipalities throughout Victoria as a responsibility of the local authorities. The buildings are the property of municipal councils, although the Victorian Government pays capital grants, up to a maximum of $12,000, towards their erection. The councils employ the infant welfare sisters, but the Victorian Government pays a maintenance grant of $3,100 per annum for each sister employed.

The infant welfare services provided for a community depend upon its population, composition, and density, and more specifically its number of births per year. A municipality with a population of 5,000 and approximately 100 birth notifications per year, needs a full-time infant welfare sister and requires at least one infant welfare centre building. A local council may employ one sister to provide infant welfare services to four or five townships within the municipality. In this case the sister requires a car and the Victorian Government pays a subsidy of $1,400 to the Council towards the cost of purchasing the car, and also a transport subsidy based on the distance travelled.

As well as supervising the growth and development of the children up to five years of age and advising their mothers on their health and immunisation requirements, the sister may give mothercraft demonstrations and arrange other health education activities for the parents, such as discussion groups, film nights, and talks from visiting specialists on health, education, and welfare. Home visiting is an integral part of her work.

Every municipality in the State shares in the infant welfare service, although one municipality relies on the service of an infant welfare sister employed by a hospital and does not contribute towards its cost.

The Department of Health provides the infant welfare sisters for the centres in the migrant hostels and the defence stations in Victoria, since these cannot be considered the responsibility of municipal councils.

The Department of Health also provides mobile infant welfare services for some of the sparsely populated country areas where most mothers would have to travel long distances to reach a centrally placed service. The Department provides the infant welfare sisters for this service and supplies each with a station wagon fitted with the equipment needed for her work. Several municipalities may be served on one circuit by such a service and each contributes towards the cost in proportion to the amount of time spent in its area.

Some mothers in the remote parts of the State cannot be reached by the mobile service and for them the Department of Health provides the Infant Welfare Correspondence Service. This is conducted by a sister in the Department who corresponds regularly with the mothers and sends progress letters throughout the early years of the child's life.

Health education is an important part of the Maternal and Child Welfare Service. In addition to the teaching given to mothers in infant welfare centres, mothercraft teaching is given to girls in secondary schools by infant welfare sisters. The aim is to reach all girls at some stage before they leave school.

Encouragement is given to mothers to breast feed their babies and, to achieve this, advice and guidance is given in the pre-natal as well as in the post-natal stage. The length of time for which mothers continue to breast feed is recorded by the infant welfare sisters and from their annual reports the figures for the whole State are compiled. For the three years 1971, 1972, and 1973 the number of mothers breast feeding at three months and six months are shown below:

VICTORIA—INCIDENCE OF BREAST FEEDING

Particulars	1971		1972		1973	
	number	per cent	number	per cent	number	per cent
At three months—						
Fully breast fed	14,584	20.50	15,259	22.38	16,441	25.37
Partly breast fed	2,360	3.32	2,077	3.05	1,937	2.99
Artificially fed	54,204	76.18	50,849	74.57	46,431	71.64
Total	71,148	100.00	68,185	100.00	64,809	100.00
At six months—						
Fully breast fed	6,169	9.36	7,136	11.10	7,804	12.51
Partly breast fed	1,129	1.71	921	1.43	890	1.43
Artificially fed	58,642	88.93	56,220	87.47	53,697	86.06
Total	65,940	100.00	64,277	100.00	62,391	100.00

Particulars of infant welfare services in Victoria for the years 1969 to 1973 are listed in the following table:

VICTORIA—INFANT WELFARE SERVICES

Particulars	1969	1970	1971	1972	1973
Municipal infant welfare centres	695	707	714	720	727
Centres on mobile circuits	11	11	11	14	14
Migrant centres	8	8	4	3	3
Centres at Australian Government defence stations	1	1	1	1	1
Total all types	715	727	730	738	745
Infant welfare sisters employed in centres	387	395	397	409	421
Birth notifications received	71,090	73,422	76,204	71,316	67,133
Children on centres' rolls	307,575	331,555	348,267	411,850	423,334
Children who attended centres	176,482	180,901	203,905	219,651	214,988
Attendances of children on centres' rolls	1,537,963	1,560,085	1,627,988	1,587,636	1,490,115
Expectant mothers attending centres	9,874	9,296	9,920	9,698	8,672
Attendances of expectant mothers at centres	19,426	21,572	20,861	19,852	17,407
Post-natal visits by nurses to mothers in hospital	26,335	26,482	26,611	24,983	19,698
Post-natal home visits by nurses to mothers	157,753	157,560	158,745	154,738	141,133
Infant Welfare Correspondence Service—					
Children enrolled	79	66	73	73	40
Expectant mothers enrolled	6	1	4	4	..
Mothercraft teaching in schools—					
Schools	153	137	130	123	132
Special groups	7	5	4	6	3
Total schools and groups	160	142	134	129	135
Courses	355	318	303	291	305
Lectures	3,399	3,121	2,937	2,902	3,017
Students	9,252	9,062	9,316	7,759	7,687
Certificates issued	8,190	7,111	7,153	6,066	5,983

Pre-natal service

In all infant welfare centres advice is given by the infant welfare sister on health education, pre-natal care, and mothercraft. At twenty-nine selected infant welfare centres, a pre-natal clinic is conducted by a medical officer employed by the Maternal and Child Welfare Branch, Department of Health. These metropolitan clinics are run in conjunction with public maternity hospitals serving these areas. There is also one in Yallourn conducted by local doctors. The extent of the service rendered is outlined in the following table:

VICTORIA—PRE-NATAL CLINICS AND ATTENDANCES

Particulars	1969	1970	1971	1972	1973
Clinics	28	29	29	29	29
Patients attending	7,183	7,030	6,381	3,998	3,526
Attendances of patients at clinics	30,396	30,267	25,415	18,879	14,161

Family planning clinics

Family planning clinics are being established at the pre-natal clinics as fast as the demand can be met. The Department of Health provides the doctor and nurse, and the municipal council the supplies and equipment, and those attending pay for the pills or devices prescribed. At 31 December 1973 there were seventeen such clinics being conducted.

VICTORIA—FAMILY PLANNING CLINICS

Particulars	1971	1972	1973
Number of clinics	4	7	17
Number of parents attending	n.a.	841	1,272
Total number of attendances	n.a.	3,009	4,571

Pre-school services

The building of pre-school centres has been aided in Victoria in a similar way to that of infant welfare centres. In this case, however, the building may be owned by the municipal council, a church body, or a voluntary kindergarten organisation. If the building is owned by an independent committee, the municipal council must be willing to sponsor the project and receive the subsidy.

A building grant on a two-to-one basis up to a maximum of $15,000 for a single unit centre, or $22,500 for a double unit, is paid towards the erection of a pre-school centre, which, like the infant welfare centre, has to be approved in the planning stage. These buildings vary in size and complexity according to the needs of the municipality. In general, the unit is a single one providing for twenty-five children; but in bigger areas a double unit accommodating up to fifty children at one time may be provided. To give as many children as possible the benefit of attending these centres different groups may be taken in the morning and afternoon.

Even though the pre-school centre may not adjoin the infant welfare centre, the functions of these two centres are closely linked and give continuity in the health supervision of the child in its first five years.

The most general type of pre-school centre required by a community is the kindergarten, but in some areas a pre-school play centre may be all that can be established at first. This type of pre-school centre may be conducted by a pre-school play leader, who has less training than a kindergarten teacher. Only fifteen children may be cared for by a pre-school play leader and she is not qualified for parent education work, which is an important part of the pre-school kindergarten programme.

In urban areas a third type of pre-school centre is required for the all-day care of children whose mothers go to work. There are twenty-two day nurseries providing regular all-day care and one crèche, which provides occasional care, subsidised by the Victorian Government. They may take children from infancy to five years of age and then the person in charge must be a State registered nurse with experience in the care of infants and young children. She has mothercraft nurses on her staff and a pre-school mothercraft nurse or a kindergarten teacher to provide educational sessions for the 3 to 5 years age group. In addition to supervising the subsidised day nurseries, the Department of Health staff inspects private child-minding centres to ensure that the minimum standard of service required for registration is being maintained.

Children attending pre-school centres may have a free medical examination conducted by a medical officer of the Department of Health or the municipal council or, in a few cases, by a private doctor. Children at 631 of the 936 subsidised pre-school centres existing in 1973 were examined. Department of Health medical officers covered 573, municipal maternal and child welfare medical officers 37, and private doctors 21.

For details of pre-school education, see pages 697–701 of this *Year Book*.

Pre-school maintenance subsidy

The subsidy paid to a pre-school kindergarten is equal to the salary entitlement of the kindergarten teacher. In the case of a pre-school play centre the subsidy is 80 per cent of the salary entitlement. The subsidy paid to a day nursery is 80 per cent of the cost of stipulated minimum staff requirements.

The number of subsidised pre-school centres during the years 1969 to 1973 and their particulars are as follows :

VICTORIA—SUBSIDISED PRE-SCHOOL CENTRES : TYPE AND ENROLMENTS

Pre-school centres	1969		1970		1971		1972		1973	
	Number	Enrolment	Number	Enrolment	Number	Enrolment	Number	Enrolment	Number	Enrolment
Kindergartens	665	33,638	701	35,324	742	37,644	781	40,160	829	43,315
Play centres	114	3,508	113	3,344	104	3,104	101	3,063	84	2,484
Day nurseries (all day care)	15	741	15	759	20	981	21	1,015	22	1,049
Crèche (occasional care)	1	100	1	100	1	100	1	100	1	100
Total	795	37,987	830	39,527	867	41,829	904	44,338	936	46,948

NOTE. Enrolment figures for day nurseries and the crèche show capacity only.

Training programmes

Infant welfare sisters. Approximately seventy infant welfare sisters are trained each year. Three training schools, subsidised by the Department of Health, conduct the four month infant welfare training course which can only be taken by double-certificated nurses. Twelve bursaries are awarded by the Department of Health for this training each year.

Mothercraft nurses. Nine Mothercraft Training Schools, subsidised by the Department of Health, conduct fifteen month courses for girls training to become mothercraft nurses. Each year about 200 mothercraft nurses have been trained.

Pre-school mothercraft nurses. The pre-school training course for registered mothercraft nurses is conducted by the Maternal and Child Welfare Branch of the Department of Health. Nine students, all of whom were awarded bursaries by the Department, undertook this twelve months training during 1973.

Pre-school kindergarten teachers. The Melbourne Kindergarten Teachers' College at Kew, now called the State College of Victoria—Institute of Early Childhood Development, conducts a three year diploma course for students training to become kindergarten teachers. The Department of Health awarded fifty bursaries to students commencing this training in 1973—twenty-five each to metropolitan and country students.

Pre-school play leaders. The Maternal, Infant, and Pre-school Division of the Department of Health has conducted a one year course for students training to become pre-school play leaders. Five students on bursaries undertook the course in 1973. No course was offered after 1973.

Building grants

The number and amounts of capital grants approved for building infant welfare centres, pre-school centres, and day nurseries follow :

VICTORIA—NUMBER OF CAPITAL GRANTS APPROVED AND AMOUNTS PAID FOR BUILDING INFANT WELFARE CENTRES, PRE-SCHOOL CENTRES, AND DAY NURSERIES

Buildings subsidised	1969	1970	1971	1972	1973
Infant welfare centres	30	32	26	26	22
Pre-school centres	62	54	56	48	41
Day nurseries	2	6	1	1	1
Total	94	92	83	75	64

Building subsidies	1968–69	1969–70	1970–71	1971–72	1972–73
	$'000	$'000	$'000	$'000	$'000
Infant welfare centres	134	125	100	130	102
Pre-school centres	264	256	163	262	235
Day nurseries	2	16	96	14	20
Total	400	397	359	406	357

NOTE. The above tables are not available on the same yearly basis.

Expenditure

VICTORIA—EXPENDITURE ON MATERNAL, INFANT, AND PRE-SCHOOL WELFARE
($'000)

Particulars	1968–69	1969–70	1970–71	1971–72	1972–73
Pre-school education—					
Subsidies to organisations towards cost of maintaining pre-school centres	2,255	2,615	2,966	4,008	4,947
Scholarships for training pre-school teachers and play leaders	91	95	108	126	180
Subsidies to organisations towards cost of kindergarten supervisors	..	..	..	..	46
Maternal and child health—					
Salaries	323	359	415	467	530
Subsidies to municipalities, etc., towards cost of maintaining infant welfare centres	702	719	747	753	770
Subsidies to infant welfare and mothercraft training schools	72	74	77	73	75
Scholarships for training infant welfare sisters	2	3	3	2	3
Other expenditure	86	85	97	92	110
Child welfare—					
Subsidies to organisations towards cost of maintaining day nurseries and crèches	192	199	238	318	393
Scholarships for training pre-school mothercraft nurses	3	3	4	5	6
Total	3,727	4,152	4,656	5,843	7,060

School Medical Service

The School Medical Service was founded in 1909 as a branch of the Victorian Education Department and was incorporated in the Department of Health in 1944. Before 1967 the service examined school children three times during their schooling—in Grades 2 and 5 and in Form 3. Teachers also referred for examination any children they suspected were in ill-health or were medically handicapped. Those who had previously shown signs of illness were reviewed at a later date.

In 1967 the plan was changed to the routine examination of most children in Grade 1, with follow-up examinations and examinations as the result of teacher referrals in higher grades. Screening procedures to check vision and hearing were instituted in later grades. When any illness is discovered the child is referred to the source of medical care the parents nominate, usually the family doctor.

The assessment of children who are unable to cope at school takes most of the school doctor's time. Mentally defective children become the specific responsibility of the Mental Hygiene Branch of the Department of Health, which maintains institutions and day centres where social and handicraft skills are taught. Emotionally disturbed children may be referred to a consultant psychiatrist. Children with impaired hearing or defects of speech, the blind and partially sighted, and children who are physically handicapped, are helped to receive the necessary medical treatment and any special educational help needed. In addition to this work, the medical officers and nursing sisters work in liaison with private medical practitioners, parents, and teachers.

Familiarity with welfare services and community facilities greatly helps in the management of children and families in need of aid. The school medical officer and the sister who works with him have special skills and knowledge gained from their experience in the school situation. Though they play no part in conventional treatment they can contribute to the better management at school of the child whose health is impaired. This is particularly so in cases of chronic or recurrent illness or where the child is handicapped by disease. Teachers are often the first to notice illness in a child because of its effect on general behaviour and classroom performance.

Close liaison is maintained with the Mental Health Authority and the Psychology Branch of the Education Department, and survey work is carried out to help in assessment of health standards and problems in school children. This work is done in co-operation with the Australian Bureau of Statistics.

During 1973 there were 222,237 examinations in schools, approximately 8,500 medical examinations of teachers and applicants for teaching studentships, and approximately 18,000 assessments of health statements and medical records of applicants for studentships and temporary employment.

School Dental Service

In co-operation with the Education Department, the School Dental Service began in 1921 with the opening of a dental clinic at South Melbourne. State school children visited the clinic for treatment and

returned each year for a dental check-up. As children in country districts also needed dental care the service was extended to country areas, using portable equipment carried in dental vans. At this time there was a staff of only nine dentists. The dental service was limited to schools in the inner industrial suburbs of Melbourne, orphanages, and certain country districts. Emphasis was placed on the treatment of children aged up to twelve years. This covers the period when first teeth are replaced by the permanent teeth. In 1944 the dental service was transferred to the Health Department. The Department bought new vans and twin semi-trailer units in 1951 and the service extended into more country areas. The clinic at South Melbourne had moved to larger premises by 1951, and centres were opened at North Fitzroy in 1953 and Footscray in 1959. These small inner suburban centres serve only schools in their own locality. In country districts the emphasis is on the provision of dental treatment in the more remote areas.

The rapid increase in the number of school children, and the acute shortage of dentists are factors limiting the extension of the service to additional schools. Treatment is currently available to 50,000 children, including those attending primary school, and children at various institutions in metropolitan and country areas.

It is proposed to extend the service, and the initial objective is the treatment of all primary school children within a few years. This will be achieved by the training and employment of dental therapists working under the general direction and control of dental officers. The first training school for dental therapists is at present under construction.

Health promotion

The Health Education Centre of the Department prepares publications on health topics, and provides speakers for groups in metropolitan and country areas. The centre works closely with the Anti-Cancer Council of Victoria, and other organisations working in the field of health education. Health education dealing with the problems of modern living is now included in the training of primary school teachers in State colleges as part of the long-term programme of health education in schools.

Tuberculosis Branch

Although the broad policy of tuberculosis control has remained unaltered in recent years, the improved situation has permitted some retraction of services. Persons born outside Australia are showing a considerably higher incidence of tuberculosis than Australian born.

Mortality rates continue at a low level, being 1.44 per 100,000 in 1973. Tuberculin testing among school children reveals a low natural positive reactor rate which has been fairly constant recently. In 1973, 2.1 per cent of children at age 14 years gave natural positive reactions. Morbidity figures are probably the most reliable indicator at present.

VICTORIA—ACTIVE TUBERCULOSIS CASES

Year	New cases	Reactivated cases	Chronic cases	Total cases
1969	497	44	38	579
1970	421	61	33	515
1971	416	23	19	458
1972	371	42	15	428
1973	369	38	10	417

Better social and economic conditions have continued to make a contribution towards the improved situation, backed up by diligent application to case finding, medical supervision, and contact control. The major credit for improving the situation is most directly related to the availability of modern anti-tuberculosis chemotherapy. The five drugs—Streptomycin, Isonaizid, PAS., Ethambutol, and Rifampicin—make it possible to achieve virtually 100 per cent bacteriological conversion of cases of tuberculosis, both new cases and those who have relapsed, and at the same time reduce the period spent in institutions. Treatment conducted on a domiciliary basis under direct supervision is being explored. Experience is showing that relapse of tuberculosis is being markedly reduced among those who have had full courses of drug treatment.

The three completed compulsory chest X-ray surveys of Victoria for persons aged 21 years and over, carried out in the period from October 1963 to October 1973, have demonstrated the effectiveness of the compulsory survey combined with effective roll checking. The results of these surveys are also indicative of the reduced amount of tuberculosis in the community now compared with ten years ago. In the three surveys, 1,816 active cases of tuberculosis were found and the marked decrease with each survey is very striking—987, 504, and 325.

In addition to the active cases of tuberculosis, 13,500 persons who had radiological evidence of significant past tuberculosis infections were brought to medical surveillance at clinics or by private doctors. Because

VICTORIA—TUBERCULOSIS SANATORIA: ACCOMMODATION, ETC.

Sanatoria	1969	1970	1971	1972	1973
			ACCOMMODATION		
Metropolitan	499	(a) 353	255	211	211
Country	173	143	129	129	129
Total	672	496	384	340	340
			ADMISSIONS		
Metropolitan	781	786	702	543	509
Country	157	138	144	118	95
Total	938	924	846	661	604
			DISCHARGES		
Metropolitan	780	769	738	487	496
Country	145	127	129	109	90
Total	925	896	867	596	586
			DEATHS		
Metropolitan	51	30	39	20	21
Country	13	13	13	7	8
Total	64	43	52	27	29

(a) Gresswell Sanatorium closed in May 1970.

of their higher than average risk of developing active tuberculosis this group were asked to continue under review.

Compulsory chest X-rays are continuing but the regular pattern used in previous surveys to visit all areas in Victoria serially has been changed. Now areas known from past experience to have higher incidence of tuberculosis are being given priority over areas where tuberculosis prevalence is lower. It is also considered reasonable to reduce the number of X-ray caravans being used in the field. This will result in longer intervals between X-ray surveys in most areas, and also allow some economies.

VICTORIA—TUBERCULOSIS BUREAUX ACTIVITIES

Particulars	1969	1970	1971	1972	1973
New cases referred for investigation	12,622	11,555	11,122	10,106	9,624
Re-attendances (old cases and new)	56,519	55,586	56,077	50,532	46,190
Visits to patients' homes by nurses	22,803	23,810	24,755	22,216	21,324
X-ray examination—Films (*a*)—					
Large	35,462	30,163	22,817	21,596	20,359
Micro	21,378	26,690	36,353	33,652	29,010
Tuberculin tests	11,406	10,293	9,683	8,514	7,544
B.C.G. vaccinations	3,128	3,031	2,742	2,192	1,953
X-rays taken—Chest X-ray surveys	672,925	671,914	694,459	652,752	598,721
School tuberculin surveys—Mantoux tests	89,541	81,405	93,933	96,249	87,495

(*a*) Excludes mass X-ray surveys with mobile units.

Mental Health Authority

The functions of the Mental Health Authority, defined in the *Mental Health Act* 1959 and subsequent legislation, are to formulate, control, and direct general policy and administration in regard to the treatment and prevention of mental illness, intellectual defectiveness, and alcoholism and drug dependence.

In the planning of mental health services in Victoria, a number of regions were established (with about equal populations in each). The Authority aims to provide a community mental health service in each region with early treatment centres, residential hospitals, day hospitals, outpatient clinics, and residential hostels. Early treatment units are now established at Ballarat, Dandenong, Larundel, Malvern, Parkville, Royal Park, Mont Park, Plenty, Shepparton, and Traralgon. A residential treatment centre for emotionally disturbed children has been set up at Travancore.

A State-wide service of outpatient clinics has now been established. These centres are staffed by the Authority and many of them are conducted at general hospitals in country areas. They provide a service for the treatment of mental and emotional illness and after-care for discharged hospital patients. The Elizabeth Street Clinic, Melbourne, provides a personal emergency advice service. A consultation service is also provided to the prisons system, and is based in G Division at Pentridge. Other clinics serve a variety of purposes, being concerned variously with sheltered workshops, child and family problems, counselling services, therapeutic social clubs, and hostel supervision.

For intellectually handicapped persons there are fifty-eight day training centres functioning throughout the metropolitan and country areas. These centres are subsidised by the Authority for their maintenance and capital costs, while their management is under private committees supervised by the Authority's officers.

Residential training centres for intellectually defective patients conducted by the Authority are functioning at Ararat, Beechworth, Janefield, Kew, St Nicholas Hospital (Carlton), Sandhurst, Stawell, Sunbury, and Warrnambool ; a new centre is in the course of construction at Colac.

Specific functions of the Authority are research and investigation into the causation and treatment of mental illness, and postgraduate training of staff. For these purposes, an Institute of Mental Health Research and Postgraduate Training has been established at Parkville, and the teaching functions of this unit are carried out within the framework of the Department of Psychiatry, University of Melbourne. There is also an active community mental health education programme.

VICTORIA—MENTAL HEALTH : PERSONS UNDER CARE OF THE MENTAL HEALTH AUTHORITY BY TYPE OF PATIENT

Particulars	At 30 November—				
	1969 (*a*)	1970	1971	1972	1973
RESIDENT PATIENTS—					
Recommended patients in—					
State mental hospitals	3,050	2,874	2,589	2,427	2,303
Repatriation Mental Hospital	245	231	231	229	216
Psychiatric hospitals	167	200	196	197	201
Approved patients in intellectual deficiency training centres	850	888	833	780	804
Voluntary patients in—					
State mental hospitals	1,767	1,912	1,835	1,807	1,736
Repatriation Mental Hospital	34	37	32	27	30
Psychiatric hospitals	277	286	363	415	368
Intellectual deficiency training centres	2,047	2,175	2,376	2,375	2,410
Informal patients in—					
Informal hospitals	133	249	108	138	145
Training centres	254	241	248	271	255
Alcoholic and Drug Dependency Rehabilitation Centres (*b*)	..	34	47	46	74
Total resident patients	8,824	9,127	8,858	8,712	8,542
NON-RESIDENT PATIENTS—					
On trial leave, boarded out, etc.	1,534	1,247	1,311	1,246	1,168
Total under care	10,358	10,374	10,169	9,958	9,710

(*a*) At 31 December.
(*b*) In 1970 the Alcoholic and Drug Dependency Rehabilitation Centres were designated separate establishments from the informal hospitals.

VICTORIA—MENTAL HEALTH : PERSONS UNDER CARE OF THE MENTAL HEALTH AUTHORITY BY TYPE OF INSTITUTION AND NUMBER OF PATIENTS

Type of institution	Number	Under care at 1 December 1972			Admitted, transferred in, etc.	Discharged, transferred out, etc.	Died	Under care at 30 November 1973		
		Resident	Non-resident (*a*)	Total				Resident	Non-resident (*a*)	Total
State mental hospitals	10	4,234	785	5,019	2,506	2,173	569	4,039	744	4,783
Repatriation Mental Hospital	1	256	90	346	184	184	36	246	64	310
Psychiatric hospitals	8	612	254	866	7,256	7,206	38	569	309	878
Informal hospitals	8	138	..	138	1,629	1,609	13	145	..	145
Intellectual deficiency training centres	9	3,426	117	3,543	709	680	52	3,469	51	3,520
Alcoholic and Drug Dependency Rehabilitation Centres	2	46	..	46	366	338	..	74	..	74
Total	38	8,712	1,246	9,958	12,650	12,190	708	8,542	1,168	9,710

(*a*) Non-resident patients are those on trial leave, boarded out, etc.

A new branch of the Health Department, the Alcoholic and Drug Dependent Persons Services Branch, has been established and is administered by the Mental Health Authority. The services being provided include a detoxification centre at Smith Street, Fitzroy, an assessment centre at Pleasant View, Preston, a rehabilitation centre at Gresswell, Macleod, and a unit for infirm alcoholics at Heatherton.

Further references, 1961, 1966, 1974; Mental Hygiene Authority, 1963; Mental Health Authority, 1972; Mental Health Research Institute, 1972

National Hospitals and Health Services Commission

In April 1974 the establishment of the National Hospitals and Health Services Commission was announced. It is intended that the Commission shall have overall responsibility to study Australian health care needs, and to submit recommendations to the Australian Government on allocations of both capital and operating funds to develop and maintain health care delivery systems for the benefit of all Australians.

The terms of reference for the proposed Commission included the following :

1. To undertake, promote, and assess quantitative and qualitative studies of needs of health care and for health-related services.
2. To recommend on allocations by the Australian Government specifically to promote the establishment and maintenance of State health planning agencies for the planning of health, hospital, and health-related welfare services.
3. To recommend on the priorities and phasing of allocations by the Australian Government for new health care facilities and services and related welfare services, and for modifications and additions to existing facilities and services.
4. To recommend project grants for the development of comprehensive community health services in which ambulatory and domiciliary care provided at health centres and elsewhere is co-ordinated with hospital and other services in designated areas to provide integrated programmes for preventing and treating disease and disability.
5. To recommend on the resources required for the education and training of personnel employed in the hospital and health-related welfare services.
6. To recommend project grants for the establishment and maintenance of accreditation programmes to ensure high standards of care.
7. To recommend specific grants for health service evaluations which assess the accessibility, quality, integration, and efficiency of health care programmes.
8. To co-operate with the Australian Department of Social Security in examining and recommending financial incentives for minimising the cost of hospital services at given levels of care, and to minimise the cost of each illness episode treated at a satisfactory level of care.
9. To undertake such other functions as the Commission may deem to be pertinent to the objectives stated above.
10. To undertake analyses of, and prepare reports on, other matters referred by the Australian Minister of Health.

Hospitals and Charities Commission

The *Hospitals and Charities Act* 1948 set up a Hospitals and Charities Commission consisting of three full-time commissioners, a secretary, and administrative staff. It is directly responsible to the Minister of Health.

Functions

The Commission is the authority under the Minister for the payment of maintenance and capital subsidies to registered hospitals and institutions. It exercises a close scrutiny over hospital budgets and expenditure for capital and maintenance purposes.

One of its most important functions is to co-ordinate hospital activities. It is the authority responsible for determining the site and extent of new hospital construction, and for co-ordinating hospital and institutional activities after these are established. As part of its general administrative responsibility, the Commission may inquire into the administration of institutions and societies. The Commission determines, in consultation with the Victorian Nursing Council, those hospitals which should be used for nurse training, and the standards required of nurses in hospitals. It conducts a continuous recruiting campaign for nurses, provides bursaries to encourage girls to enter the nursing profession, and generally assists hospitals in nursing matters.

The Commission promotes collective buying of standard equipment, furnishings, and supplies. The Victorian Hospitals' Association, which acts as a central purchasing organisation for Victorian hospitals, is a non-profit company of which the hospitals themselves are the shareholders. By way of encouragement to purchase, the Commission originally offered an inducement of a 33 per cent subsidy upon collective purchases made by hospitals from the Association; the amount of this subsidy has now been decreased to 15 per cent, and the Association operates as an active purchasing organisation handling all types of equipment, drugs, and commodities generally used by hospitals. Total sales by the Victorian Hospitals' Association in the year 1972–73 amounted to $9.2m.

In the year 1972–73 the Commission distributed a gross amount of $15.6m from loan funds for new buildings, additions or remodelling projects, and for furnishings and equipment for hospitals, institutions, and ambulance services. It distributed $106.3m for maintenance purposes.

The Commission exercises control over State funds:
(*a*) for capital works. Commission approval is required at all stages of the building project from the original narrative through the preliminary sketches to documentation, tendering, and supervision of the project; and (*b*) for maintenance purposes. Each institution is required to submit for Commission approval a budget covering the succeeding year's operations.

At 30 June 1973 the Commission had on its register 1,648 institutions and societies, which, besides public and private hospitals, included benevolent homes and hostels, organisations for the welfare of boys and girls, crèches, relief organisations, and other institutions or societies.

Public hospitals

Since their inception in 1846 Victorian public hospitals have maintained a distinctive pattern. First, they are managed by autonomous

committees elected by contributors, following closely the practice applying in Britain before the introduction of the National Health Service. Second, they have received financial assistance by way of government subsidies. With rising costs, this has steadily increased in amount. At present hospitals in Victoria derive some 52.7 per cent of their income from State Government sources. Third, medical staffing has followed the former traditional British pattern of honorary service. In recent years this has been necessarily supplemented by salaried doctors employed either in university teaching departments or in diagnostic and technical therapeutic fields.

Patients are broadly separated into two groups, according to an income test. Those earning below a determined level of income are eligible for public hospital care at a fee of approximately half the actual cost; medical care is free through the honorary system. Those patients whose incomes are above the level prescribed are required to pay intermediate or private hospital accommodation charges at higher rates, but only rarely does the charge cover cost; they must, in addition, meet medical fees, against which they may insure.

For a moderate premium a public patient can cover himself and his family against the public hospital accommodation charges of $20 a day. The insurance benefit includes an amount of $2 a day derived from Australian Government hospital benefits. Private and intermediate patients may insure against their higher hospital charges and may, in addition, take a medical benefits cover to help meet the doctor's bill.

Improved medical methods and more effective drugs have shortened the average patient stay in hospital, with an important effect upon the community need for acute hospital beds. In Victoria the present acute hospital bed need is assessed at fewer than 4 beds per 1,000 of population as compared with 7.5 beds in 1948. The fall is significant, not only in its effect on hospital building costs to provide for an expanding population, but in terms of cost to the patient.

Improved medical and hospital care have shortened bed stay, but they have also increased the length of life expectancy, with a corresponding increase in the number of older people in the community. State instrumentalities, in collaboration with the hospitals and religious and charitable organisations, are endeavouring to meet the changing needs.

Private hospitals

The Hospitals and Charities Commission registers and controls the standards of private (or non-public) hospitals through regular inspections.

Bush nursing hospitals are registered with the Commission as private hospitals. (See pages 784-6.)

In recent years total bed capacity has increased with the registration of more private hospitals and additional wards in existing private hospitals. Private hospitals therefore constitute an important aspect of the hospital facilities available in Victoria. At 30 June 1973 there were, in the metropolitan area, 219 registered private hospitals with 7,062 beds, while in country areas there were 92 registered private hospitals with a total of 1,931 beds.

Regional planning

The Regional Hospital Service was instituted in 1954, when eleven regions were formed, each centred on a base hospital. Regional councils were appointed and these meet regularly to co-ordinate activities. Medical, administrative, nursing, engineering, and catering advisory committees also meet at regular intervals to discuss problems and make recommendations to the regional councils.

Services which are being set up in each region as personnel become available will include pathology, radiology, blood banks, physiotherapy, speech therapy, and occupational therapy.

Reference libraries for doctors, managers, and nurses have been set up at each base hospital, and reserve equipment is held at these locations for use in emergencies. Group laundries are being established at strategic centres, and each hospital now has access to the services of a regional engineer. The regional plan has been the means whereby patients receive a higher standard of medical and ancillary care throughout Victoria.

Nursing

The Commission has various responsibilities for nursing in Victoria. It decides in consultation with the Victorian Nursing Council whether any particular hospital will be made available for use as a training school in any branch of nursing ; it determines the establishment of nursing staffs for hospitals ; through the provision of bursaries it encourages prospective nurses to improve their general education prior to commencing training ; it maintains a continuous nurse recruitment programme throughout Victoria ; it produces publicity material including films on nursing ; it directs a staff of nurses to relieve matrons in country hospitals during their leave and assists when urgent shortages of nursing staff occur ; and it assists generally in nursing matters in hospitals.

Ambulance services

Under the *Hospitals and Charities Act* 1958 the Commission is charged with the responsibility of ambulance services in this State.

For adequate and efficient provision of ambulance services, Victoria has been divided into sixteen regions, each with regional committees elected by contributors, each committee being autonomous and responsible for the provision of service under its own constitution and by-laws. Each regional committee appoints a full-time superintendent/secretary as executive officer.

Strategically placed throughout the regions are branch stations, most of which are manned by full-time officers, the remainder operated by qualified volunteers. The headquarters station is based in the largest town in the region (generally a base hospital town) and provides maintenance facilities for its fleet of vehicles, backing up of service, and co-ordination of ambulance transport.

Common two-way radio communication is established in all the regional services and ensures direct communication throughout Victoria on all matters relating to persons in need of prompt medical attention.

Funds are provided by the Commission for both maintenance and capital purposes.

Particulars of ambulance services from 1968–69 to 1972–73 follow :

VICTORIA—AMBULANCE SERVICES

Particulars	1968–69	1969–70	1970–71	1971–72	1972–73
Ambulances	290	300	310	318	336
Other vehicles	47	50	50	48	56
Staff	614	636	682	706	738
Contributors	333,333	346,513	375,982	358,625	388,881
Patients carried	270,372	317,993	318,171	324,956	332,793
Kilometres travelled by ambulances	7,115,224	7,681,620	8,069,041	8,025,910	8,488,533
Maintenance grants ($'000)	830	979	1,295	1,620	1,755
Capital grants ($'000)	310	309	330	419	370

Hospital regional planning, 1962; Nursing training, 1962; Nursing recruitment, 1964; Care of the aged, 1965; Hospital architecture, 1966; Hospitals in medical education, 1967; Charities in Victoria, 1968; Care of the elderly, 1969; Rationalised medical services, 1971; Medical education: second medical school, 1972; Community care centres, 1974

Public hospitals and charitable institutions

Information dealing with the receipts, expenditure, accommodation, and inmates of public hospitals and subsidised charitable institutions in Victoria follows. The numbers of patients refer to the cases treated and not to persons. It is considered probable that some persons obtained relief from, or became inmates at, more than one establishment, but there is no information upon which an estimate of duplications can be based.

VICTORIA—NUMBER OF PUBLIC HOSPITALS AND SUBSIDISED CHARITABLE INSTITUTIONS AT 30 JUNE (*a*)

Institution	1969	1970	1971	1972	1973
Hospitals—					
Special hospitals (*b*)	12	12	11	11	11
General hospitals—					
Metropolitan	23	22	24	24	24
Country	112	112	112	112	111
Auxiliary hospitals	1	1	1	1	1
Convalescent hospitals	1	1	1	1	1
Hospitals for the aged	7	7	8	8	10
Sanatoria	2	1	1	1	1
Mental health institutions (*c*)—					
Mental hospitals	10	10	10	11	11
Psychiatric and informal hospitals	9	10	12	15	16
Intellectual deficiency training centres	9	9	9	9	9
Alcoholic and Drug Dependency Rehabilitation Centres (*d*)	..	1	1	1	2
Total hospitals	186	186	190	194	197
Other institutions and societies—					
Infants' homes	8	8	8	8	8
Children's homes	35	36	36	35	35
Maternity homes	4	4	4	4	4
Institutions for maternal and infant welfare	4	4	4	4	4
Rescue homes	4	4	4	5	5
Benevolent homes	4	4	4	4	4
Institutions for the deaf, dumb, and blind	6	6	6	6	6
Hostels for the aged	11	11	11	11	11
Medical dispensaries	2	2	2	2	2
Total other institutions (*e*)	78	79	79	79	79

(*a*) Excluding infant welfare centres and bush nursing hospitals and centres.
(*b*) Special hospitals are those having accommodation for specific cases only or for women and/or children exclusively and in this table include the Cancer Institute.
(*c*) To 1969 figures are as at 31 December, from 1970 as at 30 November.
(*d*) In 1970 the Alcoholic and Drug Dependency Rehabilitation Centres were designated separate establishments from the informal hospitals.
(*e*) In addition to the institutions shown above, which were under the control of one or other of the State's authorities, there were, in 1973, 1,372 other institutions registered with the Hospitals and Charities Commission.

VICTORIA—PUBLIC HOSPITALS AND CHARITABLE INSTITUTIONS(a) : DETAILS OF SOURCES OF INCOME AND ITEMS OF EXPENDITURE ($'000)

Particulars	1968–69	1969–70	1970–71	1971–72	1972–73
INCOME					
Government aid	100,271	112,962	138,670	155,922	181,646
Charitable contributions	5,545	5,328	5,929	r5,436	5,859
Fees—					
Outpatients	3,397	3,733	6,250	7,570	7,181
Inpatients—					
Public	25,924	28,140	28,188	34,672	33,381
Private and intermediate	17,063	18,636	20,892	35,942	42,204
Other	11,729	13,188	16,750	14,410	21,392
Total	163,929	181,987	216,679	r253,952	291,663
EXPENDITURE					
Salaries and wages	98,763	111,869	137,409	170,425	200,648
Other operating expenses	42,396	45,927	51,307	56,653	64,527
Non-operating expenses	1,917	2,119	3,303	3,101	3,068
Capital	18,826	21,169	25,990	24,377	26,153
Total	161,901	181,084	218,009	254,557	294,397

(a) Including infant welfare centres and bush nursing hospitals and centres.

VICTORIA—PUBLIC HOSPITALS, SANATORIA, AND MENTAL HEALTH INSTITUTIONS : RECEIPTS AND EXPENDITURE ($'000)

Institution	1968–69	1969–70	1970–71	1971–72	1972–73
Hospitals (a)—					
Receipts—					
Government	64,803	74,474	96,486	109,105	129,687
Patients (b)	42,199	45,472	49,972	72,460	82,767
Other	9,332	10,550	13,310	10,939	10,316
Total receipts	116,334	130,496	159,768	192,504	222,770
Expenditure—					
Salaries and wages	70,168	80,375	100,318	127,974	153,991
Capital	13,864	15,778	21,558	19,137	20,731
Other	29,678	33,024	38,759	44,286	50,395
Total expenditure	113,709	129,177	160,635	191,397	225,117
Sanatoria—					
Receipts (c)	1,414	1,357	1,145	1,127	1,223
Expenditure—					
Salaries and wages	925	935	752	817	885
Other	489	422	393	310	338
Total expenditure	1,414	1,357	1,145	1,127	1,223
Mental health institutions (d)—					
Receipts (c)	27,062	29,236	32,254	37,743	40,557
Expenditure—					
Salaries and wages	16,614	18,817	22,209	26,782	29,257
Capital	3,335	3,169	2,645	2,881	2,618
Other	7,113	7,250	7,401	8,080	8,682
Total expenditure	27,062	29,236	32,254	37,743	40,557
Total all receipts	144,810	161,089	193,167	231,374	264,550
Total all expenditure	142,185	159,770	194,034	230,267	266,897

(a) Hospitals include hospitals for the aged.
(b) Australian Government hospital benefits payments are included in patients' fees.
(c) Sanatoria and mental health institutions are financed almost exclusively by government contributions.
(d) Includes mental bospitals, psychiatric and informal hospitals, and intellectual deficiency training centres.

VICTORIA—PUBLIC HOSPITALS: ACCOMMODATION AND INMATES, 1972–73

Institution	Number of beds in—		Daily average of occupied beds in—		Total cases treated in—		Outpatients (including casualties)
	Public section	Intermediate and private section	Public section	Intermediate and private section	Public section	Intermediate and private section	Cases treated
Special hospitals (*a*)	1,452	478	885	444	39,527	21,731	135,284
General hospitals—							
Metropolitan	3,664	1,821	2,868	1,431	100,018	76,394	492,085
Country	2,958	3,608	1,740	2,859	43,967	138,719	498,962
Auxiliary hospitals	418	10	384	3	2,969	50	170
Hospitals for the aged	4,109	..	3,683	..	7,389	..	..
Convalescent hospitals	35	9	43	..	54	20	..
Sanatoria	237	..	87	..	423	..	..
Total	12,873	5,926	9,690	4,737	194,347	236,914	1,126,501

(*a*) Special hospitals include the Cancer Institute.
NOTE. This table excludes mental hospitals, psychiatric and informal hospitals, and intellectual deficiency training centres.

Fairfield Hospital, 1961; Geelong Hospital, 1962; Royal Melbourne Hospital, 1962; Alfred Hospital, 1963; Prince Henry's Hospital, 1964; Royal Children's Hospital, 1964; History of hospitals in Victoria, 1964; St Vincent's Hospital, 1965; Dental Hospital, 1965; Austin Hospital, 1966; Queen Victoria Memorial Hospital, 1967; Royal Victorian Eye and Ear Hospital, 1968

National health benefits

Information about the various types of benefits is set out on pages 807–12.

Nursing

The nursing profession practises in hospitals, day care centres, babies' homes, baby health centres, bush nursing centres; retail, insurance, and industrial establishments; and doctors' rooms and special schools for the physically and mentally handicapped.

The demand for nurses continues to far exceed the supply and has been accelerated by the expansion of medical and scientific knowledge in the past few years, and there is an ever growing need for nurses skilled in specialised nursing care in intensive care units, coronary care units, operating theatres, and geriatric care. Opportunities for domiciliary nursing and community health nursing are expanding, although it is anticipated that hospitals will continue to require the largest share of nurses available for employment.

Every person who practices nursing for fee or reward is required to be registered under the Nurses Act and to hold a current annual practising certificate issued by the Victorian Nursing Council, the statutory body responsible for administration of the *Nurses Act* 1958. The Council is empowered to prescribe standards of nursing education and practice and approve nursing schools.

In 1973 there were 84 establishments conducting some form of basic nursing training and 6,681 student nurses enrolled.

The following table shows details of nursing training in Victoria at 30 June 1973 classified by type of course being undertaken :

VICTORIA—NURSING TRAINING AT 30 JUNE 1973

Type of course	Hospitals and institutions approved as training schools (a)	Students in training	Number who completed training in the past year
Basic courses—			
General	37	5,056	1,157
Psychiatric	10	346	80
Mental deficiency	5	64	10
Nursing aides	60	1,022	721
Mothercraft	7	193	193
Total	119	6,681	2,161
Post-basic courses—			
Midwifery	13	668	658
Infant welfare	3	23	68
Infectious diseases	1	6	9
Eye, ear, nose, and throat	1	10	8
Gynaecological	1	6	10
Radiotherapeutic	1	..	7
Total	20	713	760

(a) Some establishments conduct more than one type of training.

Under the Nurses (General Nursing) Regulations 1972, a comprehensive basic general nursing programme is being phased in as schools of nursing have upgraded their facilities for nursing education to merit approval to be schools of nursing under the new regulations. Teaching staff of the order of at least five nurse educators for 80 students with one additional educator for every 20 additional students is required. A minimum period of 1,600 hours formal instruction in the three year programme is required to be given to each student nurse.

Similar improvements in the other basic nursing courses are well advanced, and the possibility of establishing nursing courses in educational institutions is being explored.

VICTORIA—PRACTISING NURSES

Classification	Total holding annual practising certificates			
	1970	1971	1972	1973
General nurses	20,304	24,558	24,694	25,693
Psychiatric nurses and mental deficiency nurses	1,128	1,521	1,615	1,621
Nursing aides	5,640	6,437	7,663	8,233
Mothercraft nurses	1,140	1,354	1,328	1,666
Total	28,212	33,870	35,300	37,213

Victorian Bush Nursing Association

With the recent emphasis on community health care by the Australian Government and the inquiry into Victoria's health services set up by the Victorian Government, the future of the Victorian Bush Nursing Association has been under close scrutiny. Formed in 1909 when Lady Dudley, wife of the then Governor-General, recognised the need to provide nursing service in remote areas throughout Australia, the Victorian Bush Nursing Association owed its success to its first secretary, Sir James Barrett, a distinguished ophthalmologist. Initially the Association was self-supporting, assisted by

charitable donations, but as the aims of the Association changed to provide not only nursing assistance in remote areas but also hospital accommodation, government assistance became necessary. In 1974 the Association had forty hospitals with 556 beds, as well as twenty centres where nursing assistance was available, each centre providing living accommodation for the nurses and facilities for outpatient treatment. Each hospital is controlled by an autonomous local committee which manages its daily running. An annual maintenance grant is received from the Victorian Government, as is a capital grant on a three dollars for one dollar basis, the local committee providing for the remaining 25 per cent of capital expenditure ; this money is raised by local effort when such expenditure is deemed necessary by the committee. The centres are administered jointly by the Victorian Bush Nursing Association and the Hospitals and Charities Commission, with finance for the centres being provided by the Hospitals and Charities Commission.

The Victorian Bush Nursing Association is a voluntary organisation registered with the Hospitals and Charities Commission. The constitution now provides for twelve elected members of a twenty-three member council. The elected members are persons interested in the Association and are normally country people associated with a local bush nursing hospital ; in this way the hospitals and centres are able to be represented on the council.

The two principal interests of the council are nursing and finance. Because the emphasis of the Association has always been on nursing, the chief executive officer of the Association, the superintendent, is a trained nurse. As matron-in-chief of the forty hospitals and twenty centres, she assists in the recruitment and allocation of nurses to the various hospitals and centres, and deals with all matters regarding the nursing staff, although local committees have a major role in the daily management of the hospital. All nurses are paid centrally ; this is the policy of the Association. It also manages its own long service leave fund and sick leave fund for the nurses. Finance and domestic staff at hospitals are organised by the local committees.

The main financial aspect of the council's activities is concerned with the government grants. These are allocated on a yearly basis in the Victorian Budget and consist of a capital grant and a maintenance grant. In 1974 the capital grant consisted of $394,500. Each year hospitals apply to the council for permission to carry out new building projects ; the council has a three year building programme and recommends to the Minister the hospitals which, following the advice of an architect, it regards as having priority for the year in question. Similarly the annual maintenance grant of $470,000 is determined by the Victorian Treasurer. The council then allocates to each hospital its grant according to the number of occupied beds over the past year, with a decided bias towards the smaller hospital, because a hospital with a low daily bed average is relatively more expensive to maintain than one with a high average.

Due to the voluntary local committees, the small hospital administrative staff, and the large amount of local support, each hospital balances its budget. This low bed cost is not achieved by low physical or nursing standards but is due to the close scrutiny of costs exercised by the local committee,

and the lack of expensive paramedical and pathological facilities which are normally present in a public hospital. Although the hospitals operate as private hospitals, pensioner patients are admitted, and under the current Government Pensioner Medical and Nursing Schemes and by voluntary insurance plans, their costs are covered.

In 1974, of the 40 hospitals, more than 80 per cent had been erected in the preceding 30 years. Of the remainder, all have plans for modernisation which will be carried out in the foreseeable future; the small local hospital is regarded as being of high priority to the people who live in the area. New centres are opened each year even though there are few remote areas in Victoria which are not being served with some health service.

For the future the Association believes that the service provided in country areas is economic and satisfactory. From a medical point of view, over 80 per cent of patients are treated for surgical, medical, and obstetric conditions in the hospitals. If a patient has a complicated condition a nearby base hospital can provide the extra facilities required for medical, paramedical, and nursing purposes.

Details of the receipts and expenditure of bush nursing hospitals and centres in Victoria for the four years ended 31 March 1970 to 1973 are shown below:

VICTORIA—BUSH NURSING HOSPITALS AND CENTRES: RECEIPTS AND EXPENDITURE
($'000)

Particulars	Year ended 31 March—			
	1970	1971	1972	1973
RECEIPTS				
Government grants (*a*)	735	921	726	978
Collections, donations, etc.	148	151	124	165
Proceeds from entertainments	4	5	(*b*)	..
Patients' fees	1,193	1,498	2,180	2,778
Members' fees	52	55	49	42
Interest and rent	23	31	38	44
Miscellaneous	34	23	34	48
Total receipts	2,190	2,684	3,151	4,055
EXPENDITURE				
Salaries—				
Nurses (paid to central council)	837	1,062	1,424	1,641
Other	415	506	604	719
Provisions, fuel, lighting, etc.	216	232	249	263
Surgery and medicine	71	88	98	122
Repairs and maintenance	54	54	65	84
Furniture and equipment	16	14	7	108
Printing, stationery, etc.	32	35	48	45
Interest, rent, bank charges, etc.	8	7	11	7
Miscellaneous	125	134	148	155
Loan and interest repayments	12	20	34	48
Land and buildings	307	275	81	181
Alterations and additions	119	72	168	128
Total expenditure	2,211	2,500	2,937	3,501

(*a*) Includes $34,000 received under the Hospital Benefits Scheme for 1970, $26,000 for 1971, $8,000 for 1972, and $10,000 for 1973.
(*b*) Less than $500.

Royal District Nursing Service

The Royal District Nursing Service, founded in 1885 and named Melbourne District Nursing Society, was later incorporated under the Hospitals and Charities Act as a benevolent charitable organisation ; the name was changed to Royal District Nursing Service in 1966. The Society was formed for the purpose of bringing health care to the sick poor in their own homes, but owing to social changes and the introduction of more complicated and expensive forms of hospital, medical, and surgical treatment, services of a district nurse are now available to all, regardless of means. The organisation is financed by Victorian Government grant, Australian Government subsidy, and patients' fees and donations.

The Service, by providing comprehensive assistance on a daily basis, allows patients to remain at home, thus easing the pressure on public hospitals. The health care provided includes active bedside nursing, health teaching, rehabilitation nursing, provision of aids to nursing, linen service, a limited chiropody service, and some degree of social assistance. Close liaison has been established with thirteen major metropolitan hospitals and four community health centres for the purpose of ensuring continuity of nursing care according to medical orders. Patients are admitted to the care of the Royal District Nursing Service by direct referral from hospitals or general practitioners.

The Service, with its headquarters in St Kilda Road, Melbourne, has eight centres placed at strategic locations throughout the suburbs of Melbourne to minimise travelling and increase the time given to nursing in the patient's home. The eight centres are at Camberwell, Essendon, Footscray, Frankston, Heidelberg, Moorabbin, Caulfield, and Bayswater. A new centre is being built at Rosebud.

Because of the new outlook adopted by the Victorian and Australian Governments towards caring for people out of hospital, there is an ever increasing demand on the Service. The future policy in the 1970s is to provide an integrated comprehensive health care programme to keep patients at home. Because the centres are placed strategically throughout Melbourne, the Service has the means to carry out such a programme provided it is able to include the utilisation of social workers, physiotherapists, and other members of the paramedical team at its centres ; application was made in June 1974 to the Australian and Victorian Governments for assistance to attain this aim.

Considerable emphasis is placed on preparing the nursing staff more adequately for their role in providing comprehensive nursing care for the community and, consequently, the Service has established an education service to fulfil this responsibility. Regular lecture sessions are conducted by both its own and visiting lecturers, and teaching is undertaken with staff in the homes ; a well equipped reference library is available to staff.

Each year a thirteen week advanced course in domiciliary nursing is available to selected members of the staff, and nurses from other agencies engaged in similar work are invited to participate. Nursing in the community requires the qualified nurse to develop new skills, acquire new areas of knowledge, and the ability to adapt knowledge and skills to a new area of responsibility. This course aims to develop staff both professionally and personally so that they are able to provide a more effective nursing

service for the community. Approximately 40 of the present staff have undertaken this course and a further 20 hold postgraduate diplomas in public health, administration, and teaching.

In 1885 the sole nursing sister travelled by foot or public transport. As the staff grew in the early 1900s the mode of transport graduated to bicycles and there are now 190 modern cars in the transport fleet. During the year ended 30 June 1974, 250 nursing sisters cared for 24,028 patients, making 483,392 visits. The sisters travel 2.4 million kilometres per year over an area of 8,288 square kilometres through 54 municipalities of Melbourne. At 30 June 1974 there were 3,970 patients receiving nursing care by the sisters.

Lord Mayor's Fund

The Lord Mayor's Fund was inaugurated by the Lord Mayor of Melbourne in 1923. The object of the founder was to rationalise and regularise the collection and distribution of voluntary contributions to support the hospitals and charities of Melbourne. There are two methods of operation : the Hospitals and Charities Sunday Committee and the Lord Mayor's Fund. The Hospitals and Charities Sunday Committee raises its funds from an annual one day appeal to parishioners on the fourth Sunday in October by means of specially printed offertory envelopes supplemented, latterly, by grants from church budgets.

The Lord Mayor's Fund does not employ collectors nor does it pay commissions. Its appeal is presented to the public as directly as possible by advertising, personal correspondence, or by voluntary speakers addressing groups.

The total annual receipts of the appeal and the fund during the period 1969–70 to 1973–74 were as follows :

VICTORIA—LORD MAYOR'S FUND AND HOSPITALS AND CHARITIES SUNDAY APPEAL : RECEIPTS
($'000)

Year	Lord Mayor's Fund	Hospitals and Charities Sunday Appeal	Total
1969–70	490	48	537
1970–71	549	47	595
1971–72	528	47	575
1972–73	560	43	603
1973–74	564	45	609

MEDICAL RESEARCH

Walter and Eliza Hall Institute of Medical Research

The Walter and Eliza Hall Institute of Medical Research owes its foundation to Sir Harry Allen, then Professor of Pathology in the University of Melbourne, who in 1915 urged the Walter and Eliza Hall Trust of Sydney to provide the Melbourne Hospital with diagnostic laboratories. Early in 1915 the first director, Dr G. C. Matheson, was appointed and building on the hospital site began. It was completed in 1916, but as Matheson was killed at Gallipoli, the Institute was not inaugurated until January 1920 as the Walter and Eliza Hall Institute of Research in Pathology and Medicine, acquiring its present title in 1947. Since then it has had an unbroken record of work in

the medical sciences under its successive directors. By 1939 the hospital laboratories had become independent of the Institute, and in 1946 the clinical research unit of the Institute was established with its own ward in the Royal Melbourne Hospital. This re-established a close but specifically limited relationship with the hospital. Several of the Institute's scientists have become Fellows of the Royal Society and Fellows of the Australian Academy of Science. Since 1944 the Director has also held a Chair in the University of Melbourne. This was at first styled the Chair of Experimental Medicine, but is now the Chair of Medical Biology.

A wide range of topics has been studied, depending both on the special interests of individual workers and on the need for the investigation of epidemics or of war-time contingencies. The first major study was of hydatid disease (between 1920 and 1924), followed by a long series of investigations on Australian snake venoms between 1927 and 1938, leading to the production of an anti-venene by the Commonwealth Serum Laboratories. Arising from these studies important work was carried out between 1935 and 1939 on the action of toxic substances in provoking the liberation of active pharmacological agents from cells. In 1934 the Rockefeller Foundation began to support extensive and significant virus research, which was carried out in the following years under Sir Macfarlane Burnet who was Director of the Institute from 1944 to 1965. This included work between 1935 and 1941 on psittacosis, herpes virus, and poliomyelitis. During the Second World War a major segment of the Institute's activities was concerned with influenza and methods of producing vaccines from virus grown in the chick embryo, a technique initiated in the Institute between 1935 and 1945. Influenza virus remained a central theme for the Institute until about 1957 and the two most important fields to be developed were the progressive clarification of the function of sialic acid and neuraminidase, and the development of techniques for genetic recombination between influenza viruses. Interest in immunological topics has grown during the last twenty years, and since 1957 these have become the main activity of the Institute. Sir Macfarlane Burnet, O.M., F.R.S. shared a Nobel Prize with P. B. Medawar in 1960 for his part in the discovery of immunological tolerance, and from 1957 to 1959 had developed his clonal selection theory of immunity.

Since 1960 the Institute has developed into one of the world's main centres of immunological research and has continued to expand both in its research activities and postgraduate training role. At 30 June 1974 there were 43 research workers as well as supporting staff and postgraduate students. The total research expenditure in 1973–74 was $1,691,319.

Cancer Institute

The first stage of the Cancer Institute's new building programme began in 1973. After the letting in late 1973 of the preliminary contract for the excavation of the backyard, the underpinning of neighbouring buildings, and the construction of caissons, erection of the multi-storey building on the Institute's main site in William Street, Melbourne has proceeded.

This multi-storey building is designed to provide for the immediate needs of the Institute and for the relocation of the administrative departments. These administrative departments have been housed in another building in William Street which is being acquired by the Melbourne Underground

Rail Loop Authority to provide for the construction of the Flagstaff Railway Station.

The building, which provides for the first stage of the Institute's development, involves an expenditure of approximately $16m over three years and will provide inpatient accommodation of 200 beds, four operating theatres, additional outpatient clinics, and a central supply department.

It has been planned that the first half of this 12 storey building will be open in 1977. This will allow the transfer of several departments and wards to enable demolition of some existing buildings and construction of the second half of the building.

Subsequent stages of the Institute's development are to provide the following facilities :

> *Short-term development* (immediate needs—within five years). This refers to the immediate necessity to provide 300 radiotherapy beds, adequate outpatient accommodation, and ancillary services. Building plans should be flexible enough to provide expansion to the long-term plan and will provide for the full range of services, progressive development of the research activities, and re-allocation of buildings on the present site.
>
> *Long-term development* (beyond five years). At the conclusion of this development, there will be 400 to 450 beds in operation on the main site. The long-term plan would contain recommendations relating to the further development of Institute services within Victoria. Consideration would need to be given to such problems as decentralisation and satellite centres.

Research units. These will be expanded as suitable scientists become available but research units will be provided with supporting services such as clinical facilities, technical workshops, and animal facilities. Future units to be developed will deal with pharmacological research, immunology, cytogenetics, biophysics, theoretical biology, and chemotherapy. In addition, a clinical research unit will be established.

Educational units. Teaching facilities and student accommodation will be provided for both undergraduate and postgraduate medical students. In addition, added expanded facilities will be available for training students in the various science disciplines and technology associated with the service departments at the Institute.

Before the long-term development is undertaken, a study will be made to establish the relationship between the various functions of the Institute. Any re-development at the rear of the Royal Mint will have due regard to the present building, which the Government, after consultation with the National Trust, has decided to preserve ; the new building will blend aesthetically with the buildings on the William Street frontage. Matters that will require special consideration include the optimum size of the Institute, having regard to building economics, transport, geographical problems, and the human elements in the construction and maintenance of an organisation of such complex ramifications. The question of obsolescence will also be considered, as this would affect the use to which buildings could be put if there were dramatic changes in treatment methods.

The following statistical information indicates the growth which has taken place during the years 1968–69 to 1972–73 :

VICTORIA—CANCER INSTITUTE

Particulars	1968–69	1969–70	1970–71	1971–72	1972–73
Accommodation and patients—					
Indoor patients—					
Beds available	122	122	122	122	166
Under care at beginning of year	81	97	91	84	81
Admitted during year	3,165	3,416	3,195	3,136	3,317
Discharged during year	2,964	3,257	3,030	2,944	3,153
Died	185	165	172	195	175
Under care at end of year	97	91	84	81	70
Daily average	86.2	88.29	78.69	79.33	83.96
Outdoor and casualty patients—					
Patients treated	9,264	9,282	10,018	10,046	10,059
Attendances of patients	160,280	164,855	173,441	179,612	189,487
New patients admitted during year	5,022	4,939	4,712	4,559	4,397
Finance ($'000)—					
Income	667	695	778	956	1,114
Expenditure	2,661	3,057	3,575	4,151	5,145
Victorian Government grant	1,970	2,282	2,773	3,204	3,739
Staff—					
Medical	72	74	72	67	83
Nursing	163	178	130	126	164
Scientific and technical	170	167	188	176	186
All other	323	328	392	393	396
Salaries and wages ($'000)	1,970	2,288	2,751	3,237	3,713

Anti-Cancer Council of Victoria

The Anti-Cancer Council of Victoria was constituted by an Act of the Victorian Parliament in 1936 and entrusted with the responsibility of co-ordinating in Victoria " all activities in relation to research and investigations with respect to cancer and allied conditions, and with respect to the causation, prevention, and treatment thereof ".

In discharge of these duties, the Council supports a substantial programme of cancer research in university departments, research institutes, and hospitals in Victoria, much of which has been accorded international recognition. The Council also conducts an active educational programme, with the co-operation of the Victorian Departments of Health and Education, to inform people about the early warning signs of cancer and to encourage those who have such symptoms to seek early diagnosis and treatment.

A widespread campaign aimed at encouraging women to practise breast self-examination is being conducted on television and in other media with the object of achieving earlier diagnosis of this form of cancer and consequent improvement in survival rates. The campaign has received the co-operation of the medical profession and has gained good acceptance with women. The Council also conducts an educational programme to promote the method of detection of cervical cancer by " the cell test ". It is now known that over half of the women in Victoria under the age of 40 years have had one cervical smear test.

Since 1967 the Council has been encouraging cigarette smokers to change to brands which yield lower quantities of tar and nicotine. A testing system has been established and the Council regularly publishes the tar content of popular brands of cigarettes from the results obtained. A continuous campaign is conducted to inform school children of smoking hazards and of the relationship between cigarette smoking and lung cancer.

The Council has received a project grant from the Australian Government to conduct the Victorian component of the National Warning Against Smoking Campaign. This is reflected in the increased expenditure set out below.

The Council conducts a welfare scheme designed to identify, assess, and relieve the practical domestic needs of cancer patients and their families. The assistance given is intended to solve the immediate problems of the illness by alleviating the financial hardship that is so often precipitated by cancer. Grants are made for a specific need, and for a limited period. This programme involves an annual expenditure of $60,000 to $80,000.

The Council conducts the Central Cancer Registry for the State of Victoria. It is a hospital-based registry covering approximately half of all the cancer patients in the State. Information as to the survival rates, and the various forms of treatment which have led to these, is available to the medical profession on request.

The following table gives details of expenditure by the Anti-Cancer Council during the years 1969–70 to 1973–74 :

VICTORIA—ANTI-CANCER COUNCIL : EXPENDITURE
($)

Particulars	1969–70	1970–71	1971–72	1972–73	1973–74
Research	176,636	193,018	231,185	271,426	290,012
Education	59,162	56,314	63,388	71,907	(a)122,063
Patient aid	34,208	41,584	39,875	35,490	58,957
Other	66,836	88,708	120,094	96,991	110,774
Total expenditure	336,842	379,624	454,542	475,814	581,806

(a) Includes expenditure on National Warning Against Smoking Campaign—$56,309.

Baker Medical Research Institute

The Thomas Baker, Alice Baker and Eleanor Shaw Medical Research Institute was established in 1926 by the late Thomas Baker, his wife, and his sister-in-law to provide laboratory services for the Alfred Hospital and to conduct medical research. Although situated in the grounds of the Hospital, it is independent of the Hospital, being administered by its own body of trustees. The service commitment inherent in its charter was transferred gradually to departments of the Hospital. This move was completed in 1948, and since then the workers in the Institute have been engaged solely in medical research. Formal agreements with the Alfred Hospital ensure a clinical side to research projects through the Clinical Research Unit which is mainly housed in the Institute. Affiliation with Monash University provides an academic backing and makes Institute facilities available to appropriate university students.

The comparative financial independence of the Institute is unusual in this country and is due to the generosity of the founders who set up the Baker Benefaction; this has since its inception provided about 65 per cent of the annual maintenance of the Institute. The rest of the necessary income has been obtained from grants-in-aid of research from various grant-making bodies, from payment for services rendered, and from the endowment funds accumulated by the Institute itself. The Victorian Government contributed significantly to the capital cost of re-building and re-equipping the Institute from 1966 to 1968.

Over the past quarter of a century the research work carried out in the Institute has received international recognition. It has been mainly concentrated on studies relating to the cardiovascular system, which embraces the heart and the blood vessels, whose diseases are a major cause of illness in man. These researches have led to a better understanding of the manner in which the body controls its fluid volume, how this control is upset in heart failure, and methods for treatment of heart failure.

Drug treatment for high blood pressure is nowadays very successful in the short-term and the results of long-term treatment have now been studied by one group of investigators for 20 years. Disturbances of the ability of blood to clot produce either bleeding or unwelcome clotting in blood vessels. The chemical processes involved in clotting have proved a fruitful ground for research for many years and have yielded advances in the treatment of diseases as dissimilar as haemophilia and coronary occlusion. Heart failure often results from failure of the heart muscle to produce adequate power but the means by which the heart muscle converts its fuel (sugar and fat) into energy are not completely known. Studies in the Institute have shown that calcium ions play a large role in this conversion and research in this field has been most rewarding.

Because modern biological research requires techniques of investigation and ideas from many different disciplines, for many years projects either not related to, or only peripherally related to, the cardiovascular system have been encouraged at the Institute, to provide an inter-disciplinary backing of all projects. A series of investigations concerning the induction of cancer with chemicals, those concerned with cardiac surgery, those concerned with the alimentary canal, and those with respiration illustrate this need. The staff engaged in these projects varies in number from year to year but is usually about 45 of whom about half are university graduates in science or medicine.

Commonwealth Serum Laboratories

The Commonwealth Serum Laboratories are Australia's leading centre for the production and supply of biological products for human and veterinary use. Located at Parkville, Melbourne, the C.S.L. research laboratories and manufacturing, service, and storage buildings now cover most of the 11 hectare site granted to C.S.L. by the Australian Government in 1918. Since it was set up by the Australian Government in 1916 as a small unit to produce wartime emergency supplies of sera and vaccines, C.S.L. has become one of Australia's foremost scientific institutes. The scope and variety of its activities has paralleled the development of medical science.

The Commonwealth Serum Laboratories were originally under the control of the Quarantine Division of the Department of Trade and Customs, until the transfer to the newly established Commonwealth Department of Health in 1921. The Laboratories continued as a division of the Department of Health until the *Commonwealth Serum Laboratories Act* 1961 established the Commonwealth Serum Laboratories Commission. The initial function of the Laboratories was to produce and supply Australia's needs of vaccines and antisera for use in the prevention and treatment of human disease in Australia, but many further functions and research activities were added in the interest of public health. One of the products of the first year of

operation was tuberculin for the testing of animals, and shortly afterwards anti-toxins and vaccines for veterinary use were produced. The laboratories now carry out extensive veterinary research.

Many of the important discoveries in medicine, biology, and biochemistry since the 1920s have affected C.S.L.'s activities. The discovery of insulin by Banting and Best in 1922, of penicillin by Fleming and Florey in 1943, and of poliomyelitis vaccine by Salk in 1954 are outstanding examples. There have also been many other important although less spectacular achievements for preventing, diagnosing, and treating disease, and as a result some diseases which were common fifty years ago are now virtually non-existent in Australia. In 1932 there were over 7,000 cases of diphtheria in Victoria with 166 deaths. There are practically no deaths from this cause today.

Rapid developments in pathology and public health have increased the demand for new biological products; this has resulted in continuous expansion, often accelerated by sudden demands. For instance, during the influenza epidemic of 1918–19 the original staff of thirty was more than trebled, and again during the Second World War the Laboratories produced greatly increased quantities of vaccines, anti-toxins, and blood products. From 1939 to 1945 the staff increased from 240 to 620, substantial additions being needed for the production of penicillin from 1944 and for influenza virus vaccine from 1945. In 1975, 1,080 persons were employed, and the scientific staff included about 135 professionally qualified people, among whom are fellows and members of about 40 different learned professional societies and associations. Members of the staff are serving on 30 national and international expert committees.

Among more than 600 products of the Laboratories are anti-toxins and other antisera, human and veterinary vaccines, both bacterial and viral, human blood products, antibiotics (especially penicillins), diagnostic products, allergen extracts, and bacteriological and cell culture media. Several of these products have resulted directly from original research at C.S.L. Others have been adapted and developed to meet local requirements. Active research in various scientific areas has always been a function of the Laboratories, but in 1935 a Research Division was established which has been a steadily developing section ever since. Its activities cover basic and applied research in the fields of bacteriology, virology, immunology, serology, biochemistry, and biophysics, all of which are directed towards improving the knowledge of human and animal health. Over 600 papers have been published in scientific journals in Australia and overseas.

C.S.L. collaborates closely with the Australian Red Cross Blood Transfusion Service. It operates a modern blood fractionation plant which produces from human blood, donated to the Red Cross, the nation's supplies of blood plasma and a wide range of essential blood derivatives. These products are made available free to hospitals and medical centres through the Red Cross.

Medical research at University of Melbourne, 1964; National Heart Foundation of Australia (Victorian Division), 1964; Medical research at the Royal Women's Hospital, 1965; St Vincent's School of Medical Research, 1965; Medical research at Monash University, 1966; Melbourne Medical Postgraduate Committee, 1967; Epidemiological Research Unit, Fairfield Hospital, 1969; Asthma Foundation of Victoria, 1969; Paramedical services, 1969, Baker Medical Research Institute, 1970; Royal Children's Hospital Research Foundation, 1970; Commonwealth Serum Laboratories, 1971; Walter and Eliza Hall Institute of Medical Research, 1972